

IN THE UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF TEXAS  
DALLAS DIVISION

FILED

MAR - 6 2012

CLERK, U.S. DISTRICT COURT

By M. F. Deputy 1:05 p.m.

GENERAL ELECTRIC COMPANY,

*Plaintiff,*

v.

MITSUBISHI HEAVY INDUSTRIES,  
LTD., and MITSUBISHI POWER  
SYSTEMS AMERICAS, INC.,

*Defendants.*

Civil Action No. 3:10-CV-00276-F

JURY TRIAL DEMANDED

**PLAINTIFF'S MOTION FOR JUDGMENT AS A MATTER OF  
LAW PURSUANT TO FED. R. CIV. P. 50(a) ON VALIDITY**

Pursuant to Federal Rule of Civil Procedure 50(a), Plaintiff General Electric Company ("GE") herein moves for judgment as a matter of law ("JMOL") on the following issues of validity:

1. Defendants Mitsubishi Heavy Industries, Ltd. And Mitsubishi Power Systems Americas, Inc. (collectively "Mitsubishi") failed to prove by clear and convincing evidence that U.S. Patent No. 7,629,705 (the "'705 patent") was ready for patenting before October 20, 2005, and therefore is invalid under 35 U.S.C. § 102(b).
2. Mitsubishi failed to prove by clear and convincing evidence that the '705 patent is invalid under the enablement requirement of 35 U.S.C. § 112.
3. Mitsubishi failed to prove by clear and convincing evidence that the '705 patent is invalid under the written description requirement of 35 U.S.C. § 112.

4. Mitsubishi failed to prove by clear and convincing evidence that the '705 patent is invalid under 35 U.S.C. § 102(b) in view of the Nielsen reference, PCT Publication No. WO 2004/070936 (hereinafter, "Nielsen").

Under Rule 50(a), a court may render judgment as a matter of law after the moving party is fully heard on an issue at trial if there is no legally sufficient evidentiary basis for a reasonable jury to find for the party opposing the motion on that issue. *Kevin M. Ehringer Enters., Inc. v. McData Servs. Corp.*, 646 F.3d 321, 324 (5th Cir. 2011).

**I. GE Is Entitled To JMOL That The Claimed Invention Was Not Ready For Patenting Before October 20, 2005**

Under *Pfaff v. Wells Elecs., Inc.*, 525 U.S. 55 (1998), the on-sale bar arises when the claimed invention is both (1) the subject of a commercial offer for sale,<sup>1</sup> and (2) ready for patenting. *Id.* at 67. An invention can be shown to be ready for patenting "by proof of reduction to practice before the critical date [which the parties agree did not happen here]; or by proof that prior to the critical date the inventor had prepared drawings or other descriptions of the invention that were sufficiently specific to enable a person skilled in the art to practice the invention." *Id.* at 67-68.

In an attempt to meet their burden under the clear and convincing burden, Mitsubishi offered only conclusory, *ipse dixit*, expert testimony from Dr. Mark Ehsani that the drawing appearing on Defendants' Trial Exhibit 8 somehow provides sufficient specificity to enable a person skilled in the art to practice the claimed invention. *See* 3/5/12 Trial Tr. (A.M.) at 135:6-139:6; *see also General Electric Co. v. Joiner*, 522 U.S.

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<sup>1</sup> The Court previously granted summary judgment that the claimed invention of the '705 patent was the subject of a commercial offer for sale more than one year prior to the filing date of the '705 patent. GE respectfully disagrees with that ruling and reserves its rights to appeal, but assumes for purposes of this JMOL Motion that Mitsubishi has met that prong of the *Pfaff* test.

136, 146 (1997) (“Nothing in either *Daubert* or the Federal Rules of Evidence requires a district court to admit opinion evidence that is connected to existing data only by the *ipse dixit* of the expert.”). But pointing to this drawing cannot provide a legally sufficient basis for a reasonable jury to conclude that the invention was ready for patenting.

Mitsubishi is of course correct that *Pfaff* referred to drawings as a possible basis to establish “ready for patenting” - provided that they are sufficiently specific and enabling, which DTX-8 manifestly is not. But Mitsubishi ignores *Pfaff*’s teaching that it must be “clear that no aspect of the invention was developed after the critical date.” 522 U.S. at 68 n.14. And Mitsubishi ignores the Federal Circuit case law applying *Pfaff*. The Federal Circuit has explained: “when development and verification are needed in order to prepare a patent application that complies with § 112 [including the enablement requirement], the invention is not yet ready for patenting.” *Space Systems/Loral, Inc. v. Lockheed Martin Corp.*, 271F.3d 1076, 1080 (Fed. Cir. 2001).

The undisputed evidence shows that, after October 20, 2005, development and verification were in fact needed to prepare a patent application that complies with § 112. *See, e.g.*, PTX-25; PTX-439; 2/29/12 Trial Tr. (A.M.) at 112:5-125:3 (Testimony of Einar Larson); 2/29/12 Trial Tr. (P.M.) at 41:18-43:7 (Testimony of Einar Larson); *id.* at 74:17-91:19 (Testimony of Sid Barker). Furthermore, the undisputed evidence shows that the development of the DFIG with ZVRT was ongoing in January 2006. *See, e.g., id.* at 83:12-91:19 (Testimony of Sid Barker). Because 35 U.S.C. § 112 requires a “written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains,” it cannot be disputed that the full scope of claim 1 of the ‘705 patent

was not enabled as of October 20, 2005. Claim 1 covers use of a DFIG, and the uncontroverted evidence shows that development necessary to enable the use of the DFIG continued well after October 20, 2005, and into 2006.

Mitsubishi has presented no evidence to support a finding that, in the words of *Pfaff*, “no aspect of the invention was developed after the critical date,” or in the words of *Space Systems*, that no further “development and verification [were] needed in order to prepare a patent application that complies with § 112.” Accordingly judgment as a matter of law should be granted.

## **II. Mitsubishi Failed to Establish Lack of Enablement and Written Description**

To prove that claim 1 of the '705 patent is invalid for lack of enablement, Mitsubishi must prove with clear and convincing evidence that the claim fails to enable one of ordinary skill in the art to make and use the full scope of the claimed invention without undue experimentation. *Sitrick v. Dreamworks LLC*, 516 F.3d 993, 998 (Fed. Cir. 2008). Likewise, to prove that claim 1 of the '705 patent is invalid for lack of written description, Mitsubishi must prove with clear and convincing evidence that the '705 patent failed to “convey with reasonable clarity to those skilled in the art that, as of the filing date sought, [the inventors were] in possession of the [claimed] invention.” *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64 (Fed. Cir. 1991). Mitsubishi has not met its burden on either front, and judgment should be granted in GE's favor as a matter of law.

Mitsubishi attempted to establish during the cross-examination of GE's technical expert, Dr. Grady, that claim 1 of the '705 patent is not enabled because (1) the '705 patent does not teach any method for facilitating zero voltage ride through except by the

use of a PLL state machine; (2) the patent disclosure does not teach one of ordinary skill when to suspend firing of the converter; and (3) the patent does not teach how to calculate the proportional and integral gain values for the PLL state machine. As to written description, Mitsubishi failed to provide any testimony supporting a claim that the '705 patent lacks an adequate written description. At best, Defendants imported apparent written description issues into their enablement defense. Thus, the following analysis of why GE should receive JMOL on enablement applies equally to written description.

With regard to the PLL state machine, Dr. Grady testified that the disclosure of the '705 patent would enable one of ordinary skill in the art to perform zero voltage ride through by means other than a PLL state machine, including by the use of analog circuits that switch between normal mode and emergency mode. *See* Mar. 1, 2012 AM Trial Tr. at 110:9-111:7 ("If you know enough to see how the state machine works in the wind turbine, you will also know enough to figure out there's probably other ways to do 2 that, and I don't have to call it a state machine. I can have something simpler. Even an analog circuit, you could do it, which certainly wouldn't be called a state machine. So the teaching is that you are enlightened and you say, aha, here is another way to do it"); Mar. 1, 2012 PM Trial Tr. at 5:19-6:5 ("[Y]ou wouldn't have to use the state machine to [change states during a zero voltage events]. Like I mentioned earlier, even in an analog implementation you could have a hard switch that simply through over that value, and the PLL would continue on using that value instead of what it thought it had...[a]nybody would understand they don't have to [use the PLL state machine.]").

Similarly, with regard to suspending firing of the converter, Dr. Grady testified that a person familiar with the technology would understand that firing of the converter

should be suspended “as soon as you knew it was a zero-voltage event,” and that one of skill in the art would understand from the patent disclosure that you would resume gating the converter “after the event is over and you have confirmed that it’s over.” *Id.* at 113:9-114:4.

Finally, with regard to obtaining the proportional and integral gain values for the state machine, Dr. Grady testified that the teaching of the ‘705 patent explains the process of how the exemplary values in the patent were obtained, from which “a person who had done any work in controls” could apply the exemplary values to their particular situation to arrive at appropriate values. *Id.* at 126:19-128:19.

Dr. Grady’s testimony established that one of ordinary skill in the art could make and use the full scope of the invention of claim 1 without undue experimentation. Moreover, Dr. Grady’s testimony established that the specification of the ‘705, as of its filing date, conveys with reasonable clarity that the inventors were in possession of the claimed invention.

During its examination of Dr. Ehsani, Mitsubishi did not adduce any evidence to rebut Dr. Grady’s testimony concerning enablement or written description. Accordingly, GE should be granted judgment as a matter of law that claim 1 of the ‘705 patent is enabled and meets the written description requirement of 35 U.S.C. § 112.

### **III. Mitsubishi Failed to Establish Invalidity in View of Nielsen**

Mitsubishi has failed to present evidence that Nielsen discloses the final element of claim 1 of the ‘705 patent: “configuring the electrical machine and the control system such that the electrical machine remains electrically connected to the electric power system during and subsequent to the voltage amplitude of the electric power system

decreasing below the predetermined range including approximately zero volts for the undetermined period of time, thereby facilitating zero voltage ride through (ZVRT).”

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The party challenging the patent must come forward with clear and convincing evidence establishing invalidity. *Superior Fireplace Co. v. Majestic Prods. Co.*, 270 F.3d 1358, 1367 (Fed. Cir. 2001). The evidence presented by Mitsubishi shows that, unlike the description in the ‘705 Patent and the last limitation of claim 1, the electrical machine disclosed in Nielsen does not remain connected during and subsequent to a zero voltage disturbance. Rather, the electrical machine in Nielsen **disconnects** the stator of the generator upon occurrence of a grid disturbance. DTX-785 at Abstract (“During grid faults, the stator windings of the wind turbine generator are disconnected from the power grid...”), p. 3, lines 31-32 (“After demagnetization of the generator G, the stator windings are disconnected from the power grid...”); p. 8, lines 4-6 (“said generator comprising a wind turbine driven rotor and a normally grid-connected stator...disconnecting the stator windings from the power grid when a fault is detected”); 3/5/12 Trial Tr. (Vol. 5B) at 65:7-15, 66:19-67:4, 67:9-68:13, 81:3-10.

Based on the evidence presented by Mitsubishi, no reasonable jury could conclude that claim 1 of the ‘705 Patent is invalid as anticipated by the Nielsen reference. Accordingly, GE respectfully requests that the Court grant judgment as a matter of law.

### **CONCLUSION**

GE has established the following grounds:

1. Mitsubishi failed to prove by clear and convincing evidence that the '705 patent is invalid under 35 U.S.C. § 102(b) because it was ready for patenting before October 20, 2005.
2. Mitsubishi failed to prove by clear and convincing evidence that the '705 patent is invalid under the enablement requirement of 35 U.S.C. § 112.
3. Mitsubishi failed to prove by clear and convincing evidence that the '705 patent is invalid under the written description requirement of 35 U.S.C. § 112.
4. Mitsubishi failed to prove by clear and convincing evidence that the '705 patent is invalid under 35 U.S.C. § 102(b) in view of the Nielsen reference.

No reasonable jury could conclude based on Mitsubishi's evidence that the '705 patent is invalid. Thus, GE respectfully requests that the Court grant its JMOL Motion on all grounds, enter judgment that the '705 patent is not invalid for any of the foregoing reasons, strike the jury instructions and verdict form questions relating to on-sale bar, written description, enablement, and invalidity in view of Nielsen, and instruct the jury that Mitsubishi's defenses concerning the on-sale bar, written description, enablement, and the Nielsen reference are no longer at issue.



Date: March 6, 2012

Respectfully submitted,

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**ATTORNEYS FOR PLAINTIFF  
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**CERTIFICATE OF SERVICE**

The undersigned certifies that the foregoing document was served on March 6, 2012 on all counsel of record via the Court's ECF system.

s/ Carmen E. Bremer

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